REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

I. STATUS OF THE CLAIMS

Claims 2, 3, 14-16, 43, and 44 are amended herein.

In view of the above, it is respectfully submitted that claims 2-44 are currently pending and under consideration in the present application, claims 12, 13, and 17-42 of which are withdrawn from consideration.

II. REJECTION OF CLAIMS 2, 3, 14-16 AND 43 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 2, 3, 14-16, and 43 are rejected under 35 U.S.C. § 112, second paragraph. Claims 2, 3, 14-16, and 43 are amended herein to overcome the rejection.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIMS 2-11, 14-16 AND 43-44 UNDER 35 U.S.C. § 102(E) AS BEING ANTICIPATED BY SOBE ET AL. (US PUBLISHED APPLICATION 2003/0117694)

In item 4 on page 2 of the Office Action, the Examiner states that Applicant relies on features not recited in the rejected claims, "i.e., the specific difference between the reference light and main signal light." However, Applicant's direct the Examiner's attention to FIG. 1 and lines 6-10 at page 14 of the Applicant's specification, where such limitations are recited in the rejected claims are clearly described and supported by the specification.

Also, in item 4 on page 3 of the Office Action, the Examiner asserts, "the apparatus of Fig. 9 clearly monitors the signal lights at some wavelengths and not others" in paragraph 0239 of Sobe et al. ("Sobe"). The Examiner then *broadly concludes*, "the claim limitations are met by labeling some of the signal lights 'main signal' and other 'reference'." However, nothing in FIG. 9 of Sobe discloses or suggests that the signal light source 40 sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and having wavelengths configured so that respective Raman gains obtained by said plurality of pumping lights reaches peaks, and a control means controls said plurality of pumping lights based on the optical powers of said plurality of reference lights. Therefore, Sobe does not disclose or suggest the feature in which a

transmission station sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and having wavelengths configured so that respective Raman gains obtained by said plurality of pumping lights reaches peaks, and a control means controls said plurality of pumping lights based on the optical powers of said plurality of reference lights (see claim 2 of the present invention).

The Examiner is reminded that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP § 2131.

The present invention (see claim 2) transmits a plurality of reference lights (fr1 to fr3) having such wavelengths configured so that the respective Raman gains obtained by the corresponding pumping lights (fp1 to fp3) reaches peaks. Support for these features in claim 2 may be found, for example at pages 15-16 and FIG. 2 of the Applicant's specification. The plurality of reference lights (fr1 to fr3) is transmitted from a transmission station (110) together with WDM signal lights (fs1 to fsn). Each of the pumping lights is controlled based on the light powers of the plurality of the reference lights (fr1 to fr3), and *the plurality of the reference lights which are different from main signal lights (fs1-fsn)* are used to control a pumping light source (102). According to the above, the present invention *clearly* distinguishes over Sobe.

Independent claims 3, 14, 15, and 16 are amended herein and recite patentably distinguishing features similar to those recited in claim 2. For example, claim 3 recites, "said transmission station sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and corresponding to said plurality of pumping lights at frequencies shifted by a Raman shift frequency, and said control means controls said plurality of pumping lights based on the optical powers of said plurality of reference lights."

Claim 14 recites, "reference light generating means for generating a plurality of reference lights having wavelengths configures so that respective Raman gains obtained by said plurality of pumping lights reachs peaks, and sending out the reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and said control means controls said plurality of pumping lights based on the respective optical powers of said plurality of reference lights."

Claim 15 recites, "control means for controlling said plurality of pumping lights based on the respective optical powers of said plurality of reference lights, and said plurality of reference lights is arranged to have wavelengths configured so that respective Raman gains obtained by said plurality of pumping lights reaches peaks."

Claim 16 recites, "wherein said transmission station sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and having wavelengths configured so that respective Raman gains obtained by said plurality of pumping lights reaches peaks, and said Raman amplifier controls said plurality of pumping lights based on the respective optical powers of said plurality of reference lights."

Claim 43 recites, "wherein said transmission station sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and having wavelengths configured so that respective Raman gains obtained by said plurality of pumping lights reaches peaks, and said Raman amplifier controls said plurality of pumping lights based on the optical powers of said plurality of reference lights."

Claim 44 recites, "said transmission station sends out a plurality of reference lights together with the WDM light which includes the reference lights and main signal lights, the reference lights being different from the main signal lights and corresponding to said plurality of pumping lights at frequencies shifted by a Raman shift frequency, and said control means controls said plurality of pumping lights based on the optical powers of said plurality of reference lights."

Therefore, independent claims 3, 14-16, 43, and 44 also distinguish over Sobe.

Claims 4-11, depending either from independent claims 2 or 3, recite patentably distinguishing features of their own, and further, are at least patentably distinguishing due to their dependencies from either of independent claims 2 or 3.

In view of the above, it is respectfully submitted that the rejection is overcome.

IV. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject

matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: May 1, 2007

By: Derrick L. Fields
Derrick L. Fields
Registration No. 50,133

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501